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(21)Application number : 63-014518 (71)Applicant : NIPPON MINING CO LTD
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(54) PRODUCTION OF INDIUM PHOSPHATE POWDER AND SINTERED FORM THEREFROM

(57)Abstract:

PURPOSE: To obtain at low cost in a simple process the title high-purity indium phosphate powder capable of giving excellent sintered form through incorporation of an appropriate amount of phosphoric acid, by heating indium phosphorus at specified temperatures in an oxidative atmosphere.

CONSTITUTION: Using, as the raw material, such indium phosphorus not so expensive as polycrystalline indium phosphate relatively easily available, produced during compound semiconductor manufacturing processes, said indium phosphorus is, in advance, ground to a size of ϕ 0.5mm (10-60wt.% of indium phosphate is admixed beforehand as needed) and calcined at 760-820° C in an oxidative atmosphere (e.g., in the air) to obtain the objective indium phosphate powder. This powder is incorporated with an aqueous solution of phosphoric acid as the binder followed by forming and sintering at 900-1100° C, thus obtaining the other objective indium phosphate sintered form useful as a piezoelectric material such as oscillator or an electrical insulating material to be used for semiconductor element production.

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